

# Mineral Industry Surveys

---

**For information, contact:**

John F. Papp, Chromium Commodity Specialist  
U.S. Geological Survey  
989 National Center  
Reston, VA 20192  
Telephone: (703) 648-4963, Fax: (703) 648-7757  
E-mail: [jpapp@usgs.gov](mailto:jpapp@usgs.gov)

Joseph M. Krisanda (Data)  
Telephone: (703) 648-7987  
Fax: (703) 648-7975

**Internet:** <http://minerals.usgs.gov/minerals>

## CHROMIUM IN MARCH 2002

On the basis of gross weight, consumption of chromium ferroalloys and metal in March 2002 increased slightly compared with consumption in February 2002, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys report are U.S. salient chromium statistics, U.S. consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of March 2002, U.S. foreign trade data for selected chromium-containing materials in February 2002, and chromite ore prices.

### Update

The Defense National Stockpile Center (DNSC) issued the Basic Ordering Agreement for Ferrochromium, DLA-Ferrochromium-004. This document describes how one may purchase high- and low-carbon ferrochromium from the DNSC.

For further information, contact Rossell Beckett by phone at 703-767-5402. The DNSC planned to offer for sale up to 454 metric tons of 0.05% carbon ferrochromium, up to 1,361 tons of 0.10% carbon ferrochromium, and up to 9,072 tons of high-carbon ferrochromium per month, depending on market conditions. The DNSC announced the sale of 3,856 tons of ferrochromium silicon valued at about \$1.5 million. The DNSC released the revised fiscal year 2002 Annual Material Plan (AMP). The 2002 AMP is now in effect and expires on September 30, 2002. The revised AMP permits the maximum amount of chromium available for sale by material as follows: chemical grade chromite ore, 90,700 tons; refractory grade chromite ore, 90,700 tons; metallurgical grade chromite ore, 90,700 tons; ferrochromium, all grades, 136,000 tons; and chromium metal, 454 tons.

TABLE 1  
U.S. SALIENT CHROMIUM STATISTICS 1/

(Metric tons, gross weight)

	2001		2002			
	Fourth quarter	January-December 2/	January	February	March	January-March
Production:						
Stainless steel production 3/	437,000	1,820,000	148,000	148,000	168,000	464,000
Components of U.S. supply:						
Stainless steel scrap receipts	170,000	710,000	57,600	63,700	65,100	186,000
Stainless steel scrap consumption	241,000	1,070,000	87,100	91,400	95,900	274,000
Imports for consumption:						
Chromite ore	12,800	189,000	458	396	NA	854 4/
Ferrochromium:						
More than 4% carbon	52,300	236,000	15,500	72	NA	15,600 4/
More than 3%, but not more than 4% carbon	--	20	--	--	NA	-- 4/
More than 0.5%, but not more than 3% carbon	200	2,290	802	--	NA	802 4/
Not more than 0.5% carbon	3,600	17,200	685	1,460	NA	2,150 4/
Ferrochromium silicon	10,300	14,600	--	492	NA	492 4/
Total ferroalloy imports	66,300	271,000	17,000	2,030	NA	19,000 4/
Chromium metal 5/	1,680	8,190	760	352	NA	1,110 4/
Stainless steel	197,000	761,000	65,200	75,800	NA	141,000 4/
Stainless steel scrap	8,430	98,000	3,780	3,140	NA	6,910 4/
Distribution of U.S. supply:						
Consumption:						
Chromium ferroalloys & metal	77,000	329,000	27,700	28,100 r/	31,100	87,000
Exports:						
Chromite ore	13,700	61,000	350	988	NA	1,340 4/
Chromium ferroalloys:						
High-carbon ferrochromium	659	8,390	340	246	NA	586 4/
Low-carbon ferrochromium	1,090	7,880	109	145	NA	254 4/
Ferrochromium silicon	19	86	14	3	NA	17 4/
Total ferroalloy exports	1,770	16,400	463	394	NA	857 4/
Chromium metal	129	1,040	53	44	NA	97 4/
Stainless steel	53,200	249,000	19,500	18,600	NA	38,100 4/
Stainless steel scrap	84,600	438,000	13,800	49,600	NA	63,400 4/
Stocks at end of period:						
Industry:						
Chromium ferroalloys and metal, consumer	XX	XX	30,100	25,000 r/	19,000	XX
Government stockpile:						
Chromite ore	XX	XX	NA	NA	NA	XX
Chromium ferroalloys	XX	XX	NA	NA	NA	XX
Chromium metal	XX	XX	NA	NA	NA	XX

r/ Revised. NA Not available. XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

4/ Includes data for January through February; March data not available.

5/ Includes waste and scrap and other.

TABLE 2  
U.S. REPORTED CONSUMPTION AND STOCKS OF CHROMIUM  
PRODUCTS IN 2002 1/

(Metric tons, gross weight unless otherwise noted)

	February	March	January- March 2/
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	425 r/	407	1,300
High-strength low-alloy steel	934 r/	996	3,100
Stainless and heat-resisting steel	23,400	26,100	72,100
Full alloy steel	1,280 r/	1,590	4,270
Electrical steel	W	W	W
Tool steel	635	529	1,700
Unspecified steel	--	--	--
Cast irons	W	W	W
Superalloys	670	652	2,000
Other alloys 3/	90 r/	92	271
Other uses	--	--	--
Total	28,100 r/	31,100	87,000
Total, chromium content	15,900 r/	17,700	49,200
Consumption by material:			
Low-carbon ferrochromium	1,570 r/	1,800	5,100
High-carbon ferrochromium	22,000	24,000	67,700
Ferrochromium silicon	4,220 r/	4,970	13,100
Chromium metal	304 r/	308	883
Chromite ore	W	W	W
Chromium-aluminum alloy	37	34	110
Other chromium materials	W	W	W
Total	28,100 r/	31,100	87,000
Total, chromium content	15,900 r/	17,700	49,200
Consumer stocks:			
Low-carbon ferrochromium	1,680 r/	1,560	XX
High-carbon ferrochromium	22,500	16,600	XX
Ferrochromium silicon	634	640	XX
Chromium metal	179 r/	159	XX
Chromite ore	15	15	XX
Chromium-aluminum alloy	11	14	XX
Other chromium materials	48	38	XX
Total	25,000 r/	19,000	XX
Total, chromium content	14,800 r/	11,300	XX

r/ Revised. W Withheld to avoid disclosing company proprietary data. XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Includes structural and hard-facing materials, and aluminum, copper, magnetic, nickel, and other alloys.

TABLE 3  
U.S. GOVERNMENT STOCKPILE INVENTORY 1/ OF CHROMIUM MATERIALS 2/

(Metric tons)

Period	Chromite ore			Chromium ferroalloys			Chromium metal	
	Chemical	Metal-lurgical	Refractory	High-carbon ferro-chromium	Low-carbon ferro-chromium	Ferro-chromium silicon	Alumino-thermic	Electrolytic
2001:								
March	202,000	164,000	238,000	615,000	270,000	31,600	2,500	5,050
April	200,000	164,000	237,000	603,000	266,000	25,700	2,290	5,050
May	200,000	175,000	237,000	603,000	261,000	22,100	2,290	5,050
June	200,000	175,000	237,000	603,000	261,000	18,800	2,290	5,050
July	198,000	169,000	235,000	603,000	261,000	16,500	2,290	5,050
August	198,000	144,000	219,000	603,000	257,000	14,000	2,270	5,050
September	198,000	144,000	219,000	601,000	248,000	12,900	2,250	5,050
October	NA	NA	NA	NA	NA	NA	NA	NA
November	NA	NA	NA	NA	NA	NA	NA	NA
December	NA	NA	NA	NA	NA	NA	NA	NA
2002:								
January	NA	NA	NA	NA	NA	NA	NA	NA
February	NA	NA	NA	NA	NA	NA	NA	NA
March	NA	NA	NA	NA	NA	NA	NA	NA

NA Not available.

1/ Includes specification and non-specification grade materials and materials set aside for disposal but not yet shipped.

2/ Data are rounded to no more than three significant digits.

Source: Defense National Stockpile Center.

TABLE 4  
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL 1/

Period	Chromite ore		Chromium ferroalloys 2/			Chromium metal 3/	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2001:							
February	548	\$398	299	179	\$399	89	\$823
March	540	239	278	166	307	108	1,010
April	1,190	512	4,490	3,090	2,660	170	1,390
May	686	320	1,480	1,010	1,070	147	1,570
June	1,170	428	613	393	611	85	869
July	471	253	893	573	717	72	999
August	26,500	1,760	300	178	326	26	442
September	205	302	408	246	424	74	571
October	13,000	810	689	437	611	38	570
November	550	244	851	571	750	29	430
December	168	56	232	144	186	62	490
January-December	61,000	6,680	16,400	8,800	12,500	1,040	10,700
2002:							
January	350	210	463	288	472	53	450
February	988	572	394	233	393	44	224
January-February	1,340	782	857	522	865	97	674

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes low-, medium-, and high-carbon ferrochromium, and ferrochromium silicon.

3/ Includes wrought and unwrought and waste and scrap.

Source: U.S. Census Bureau.

TABLE 5  
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL 1/

(Metric tons)

	2001		2002		
	December	January- December 2/	January	February	January- February
Chromite ore:					
Not more than 40% chromic oxide:					
Gross weight	40	1,600	20	--	20
Chromic oxide content	14	575	7	--	7
More than 40% but less than 46% chromic oxide:					
Gross weight	27	3,100	23	--	23
Chromic oxide content	12	1,430	12	--	12
46% or more chromic oxide:					
Gross weight	10,600	184,000	415	396	811
Chromic oxide content	5,580	88,600	207	198	405
Total, all grades:					
Gross weight	10,700	189,000	458	396	854
Chromic oxide content	5,610	90,600	226	198	424
Ferrochromium:					
Low-carbon: 3/					
Not more than 0.5%:					
Gross weight	353	17,200	685	1,460	2,150
Chromium content	246	11,800	459	1,000	1,460
More than 0.5%, but not more than 3%:					
Gross weight	--	2,290	802	--	802
Chromium content	--	1,440	450	--	450
Total, low-carbon:					
Gross weight	353	19,500	1,490	1,460	2,950
Chromium content	246	13,200	909	1,000	1,910
Medium-carbon: 4/					
Gross weight	--	20	--	--	--
Chromium content	--	13	--	--	--
High-carbon: 5/					
Gross weight	10,700	236,000	15,500	72	15,600
Chromium content	6,610	137,000	8,450	51	8,500
Total, all grades:					
Gross weight	11,000	256,000	17,000	1,540	18,500
Chromium content	6,860	150,000	9,360	1,060	10,400
Chromium metal:					
Other than waste and scrap	434	8,150	747	325	1,070
Waste and scrap	2	43	13	27	40
Total, all grades	436	8,190	760	352	1,110

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Ferrochromium containing not more than 3% carbon.

4/ Ferrochromium containing more than 3%, but not more than 4% carbon.

5/ Ferrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE IN 2002, BY GRADE AND BY COUNTRY 1/

Grade and country	February			January-February 2/		
	Gross weight (metric tons)	Cr <sub>2</sub> O <sub>3</sub> (metric tons)	Value 3/ (thousands)	Gross weight (metric tons)	Cr <sub>2</sub> O <sub>3</sub> (metric tons)	Value 3/ (thousands)
Not more than 40% chromic oxide, Canada	--	--	--	20	7	\$7
More than 40% but less than 46% chromic oxide, South Africa	--	--	--	23	12	3
46% or more chromic oxide, South Africa	396	198	\$51	811	405	108
All grades:						
Canada	--	--	--	20	7	7
South Africa	396	198	51	834	417	112
Total	396	198	51	854	424	119

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise to the United States.

Source: U.S. Census Bureau.

TABLE 7  
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2002, BY GRADE AND BY COUNTRY 1/

Grade and country	February			January-February 2/		
	Gross weight (metric tons)	Chromium content (metric tons)	Value 3/ (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value 3/ (thousands)
High-carbon ferrochromium: 4/						
Kazakhstan	52	37	\$43	90	63	\$65
South Africa	--	--	--	9,300	4,720	2,010
Venezuela	20	14	12	20	14	12
Zimbabwe	--	--	--	6,140	3,700	2,230
Total	72	51	55	15,600	8,500	4,310
Low-carbon ferrochromium: 5/						
More than 0.5%, but not more than 3% carbon:						
Russia	--	--	--	69	48	55
South Africa	--	--	--	732	402	288
Total	--	--	--	802	450	343
Not more than 0.5% carbon:						
China	--	--	--	20	13	25
Germany	167	117	356	186	130	399
Japan	101	73	207	241	169	504
Russia	1,180	803	1,040	1,490	1,020	1,330
South Africa	16	11	33	216	135	95
Total	1,460	1,000	1,640	2,150	1,460	2,350
All grades:						
China	--	--	--	20	13	25
Germany	167	117	356	186	130	399
Japan	101	73	207	241	169	504
Kazakhstan	52	37	43	90	63	65
Russia	1,180	803	1,040	1,550	1,060	1,380
South Africa	16	11	33	10,200	5,260	2,390
Venezuela	20	14	12	20	14	12
Zimbabwe	--	--	--	6,140	3,700	2,230
Total	1,540	1,060	1,690	18,500	10,400	7,000

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise to the United States.

4/ Ferrochromium containing more than 4% carbon.

5/ Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 8  
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2002,  
BY GRADE AND BY COUNTRY 1/

Grade and country	February		January-February 2/	
	Gross weight (metric tons)	Value 3/ (thousands)	Gross weight (metric tons)	Value 3/ (thousands)
Waste and scrap:				
Japan	8	\$56	21	\$141
Korea, Republic of	2	5	2	5
Russia	18	352	18	352
Total	27	414	40	498
Other than waste and scrap:				
China	22	85	144	579
France	127	1,020	345	2,780
Germany	18	206	22	286
Italy	(4/)	9	1	34
Kazakhstan	57	234	134	551
Russia	38	296	264	1,460
Taiwan	(4/)	4	(4/)	4
United Kingdom	61	373	161	1,100
Total	325	2,220	1,070	6,800
All grades:				
China	22	85	144	579
France	127	1,020	345	2,780
Germany	18	206	22	286
Italy	(4/)	9	1	34
Japan	8	56	21	141
Kazakhstan	57	234	134	551
Korea, Republic of	2	5	2	5
Russia	56	648	282	1,820
Taiwan	(4/)	4	(4/)	4
United Kingdom	61	373	161	1,100
Total	352	2,640	1,110	7,300

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Customs import value generally represents a value in the foreign country and therefore exclude U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

4/ Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 9  
U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2002 1/

Stainless steel product	February		January-February 2/	
	Gross weight (metric tons)	Value 3/ (thousands)	Gross weight (metric tons)	Value 3/ (thousands)
<b>Exports:</b>				
Ingot	1,020	\$10,200	1,260	\$11,600
Flat-rolled (width > 600 mm)	5,350	12,800	11,500	28,800
Flat-rolled (width < 600 mm)	7,490	15,400	15,700	32,000
Bars and rods in irregular coils	144	684	273	1,160
Other bars and rods	1,440	7,290	2,860	16,100
Wire	830	7,090	1,580	12,400
Tubes, pipes, hollow profiles	2,290	8,350	4,980	18,800
Total	18,600	61,900	38,100	121,000
Stainless steel scrap	49,600	32,500	63,400	42,200
Grand total	68,200	94,400	101,000	163,000
<b>Imports:</b>				
Ingot	35,500	37,700	55,200	58,500
Flat-rolled (width > 600 mm)	17,600	25,000	37,300	52,800
Flat-rolled (width < 600 mm)	2,310	7,490	5,110	15,900
Bars and rods in irregular coils	7,820	12,900	15,000	23,600
Other bars and rods	5,680	12,900	13,200	31,100
Wire	2,380	7,560	5,350	16,700
Tubes, pipes, hollow profiles	4,480	18,400	9,950	39,800
Total	75,800	122,000	141,000	238,000
Stainless steel scrap	3,140	1,750	6,910	3,860
Grand total	78,900	124,000	148,000	242,000

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

2/ Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise to the United States.

Source: U.S. Census Bureau.